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TITLE: BONDED BODY OF METAL AND CERAMIC AND ITS PRODUCTION

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INVENTOR-INFORMATION:

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ABSTRACT:

PURPOSE: To improve the strength, durability and heat resistance of a specified ceramic sintered body by casting the sintered body while filling a metal into the void of the sintered body.

CONSTITUTION: The cavity 11 in a mold 10 consisting of a cylindrical outer die 15 having a circular hole, bottom die 14 and columnar die 16 is divided by partition plates 12 and 13 into plural sections 2C, 3C and 4C, the mixtures 3p and 4p of the ceramic granulating powder 2p and a granular metal or org. matter 5p respectively in a different mixing ratio are placed into the sections, the partition plates 12 and 13 are drawn out, and the mixtures 3p and 4p are pressed into formed bodies. The formed body is heated to remove the granulated metal or org. matter 5p, the obtained ceramic formed body is sintered, and the obtained ceramic sintered body is cast while filling metal into its void 5. Consequently, a bonded body of metal and ceramic consisting of a looped first part 2 of dense ceramic structure, looped second parts 3 and 4 consisting of

a porous ceramic structure, positioned around the first part 2 and integrated with the first part 2 and a metal in the void 5 of the porous structure, and a third part 1 of a metal bonded to the metal 5 in the void 5 and integrated with the second part 4, is obtained.

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